



A Typology of Research Activities and Attributes to Inform _____ Research (Adjective)

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Value of Typology

- Analytical tool to characterize science
- Provide framework to compare and contrast different forms of science
- Guide deliberation about goals and expectations of research
- Inform the design, implementation and evaluation of research

Science Serving Society



The facts are coming! The facts are coming!

- Called upon to provide relevant information
- Raise awareness, expand alternatives, clarify choices and inform decisions
- *Linking science and decision making is difficult*
 - Cultural, epistemic
 - Not the 'right' science

Types of Research

Ad hoc	Jeffersonian
Applied	Mode 1
Background	Mission-Oriented
Baconian	Newtonian
Basic	Normal Science
Clinical	Oriented-Basic
Committed	Pure
Curiosity-Driven	Pure-Basic
Curiosity-Oriented	Purposive-Basic
Development	Strategic
Directed	Tactical
Experimental	Uncommitted
Free Basic	Use-Inspired
Fundamental	

Criteria:

- Motivation for research
(fundamental discovery vs. application of knowledge)
- Temporal Delay to application

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No Explicit Role for Users

Values Informing Research

- Science values
 - Knowledge
- User values
 - Knowledge
 - Understanding
 - Information decisions
 - Solving problems

Values Informing Research

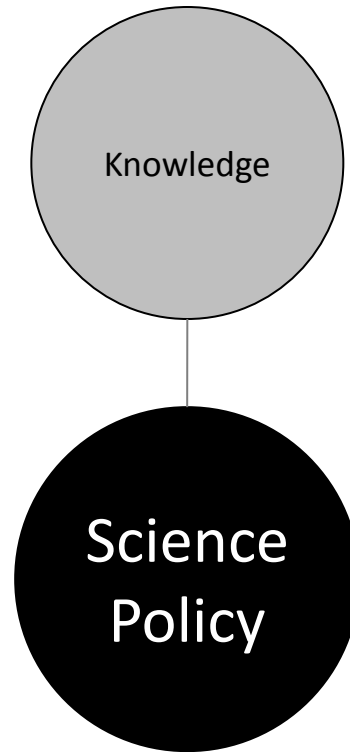
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Reinforced by:

- **Culture**
- **Epistemology**
- **Languages**
- **Participants...**

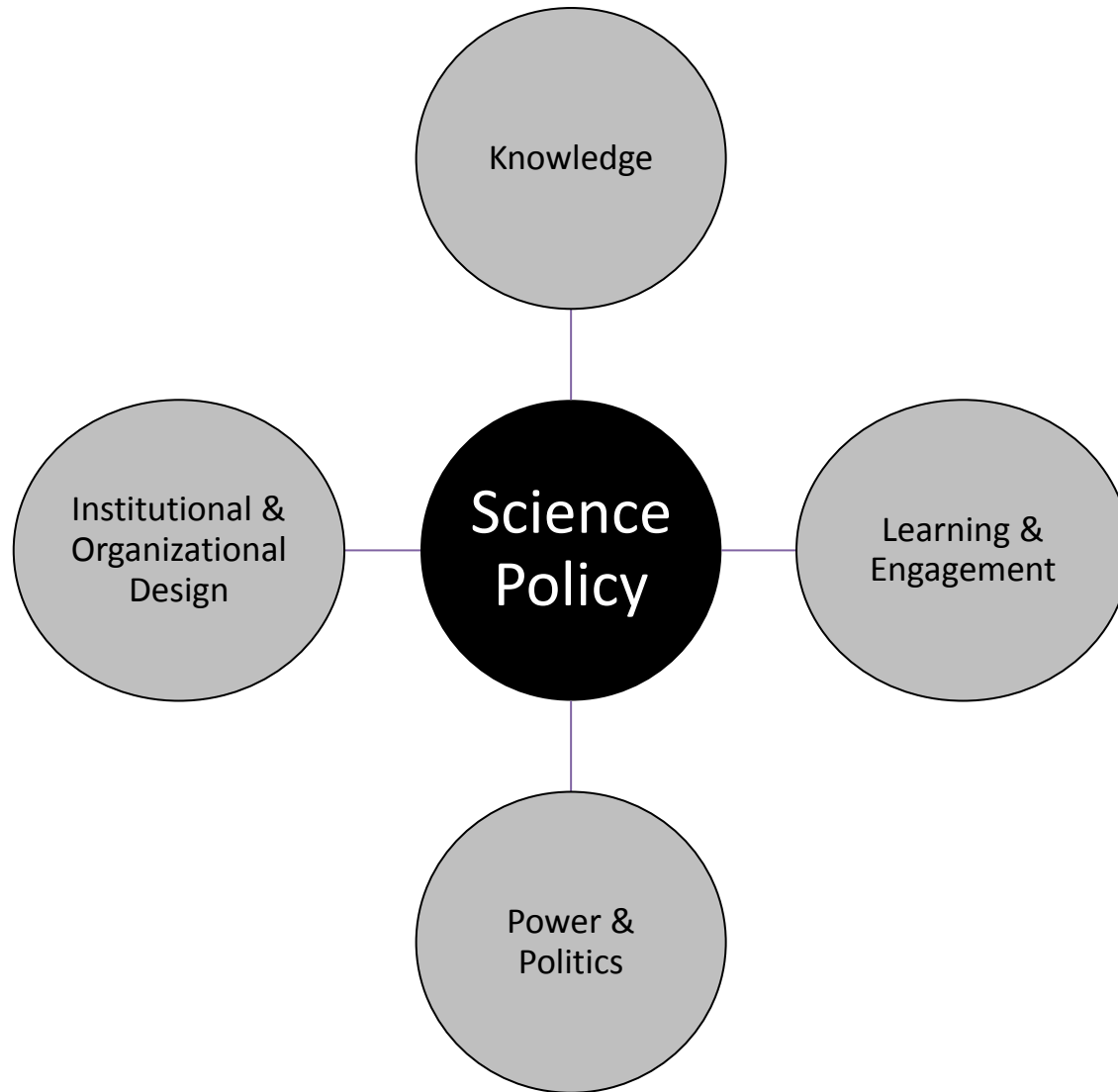
Policy for Science

Most science-policy deliberation looks at all aspects of knowledge production including content, expertise, dissemination, credibility, quality etc.



Misses other important variables that provide a more comprehensive assessment of research

Policy for Science



Introducing the Typology

- Derived from:
 - Exhaustive literature
 - Experience and expertise of scientists & science managers working with users
- Four activities with multiple attributes
- Represented in spectrum of value criteria
 - Science values
 - User values
- Variables and criteria are idealized and not weighted equally

Activity	Attribute	Spectra of Research Criteria	
		Science Values	User Values
Knowledge Production	Expertise	Epistemic	Experiential
	Relevance	General	Contextual
	Disciplinary Focus	Singular, Narrow	Transdisciplinary, Diverse
	Uncertainty	Reduce Uncertainty	Manage Uncertainty
	Goals for Research	Exploratory	Outcome Oriented
Learning & Engagement Processes	Learning	Theoretical	Social, Practical
	Knowledge Exchange	Narrow	Iterative, Influential
	Network Participation	Homogeneous	Heterogeneous
	Social Capital	Negligible	Significant
Organizational & Institutional Dynamics	Accessibility	Constrained	High
	Outputs	Narrow	Diverse
	Evaluation & Effectiveness	Science-Centric	Public-Value Oriented
	Flexibility	Constrained	Responsive
	Human Capital	Narrow	Broad
	Boundary Management	Limited	Broad

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
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Example: Is a Coffee Tree a Tree?

- Sumberjaya Indonesia
- Government mandated 'Protection Forests'
- Coffee trees not considered 'trees'
- Limited opportunities for livelihoods
- Research question: Do coffee trees provide similar services as timber trees?
- Answer: yes



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Future Directions of Typology

- Test assumptions
- Hold workshops on how to use
- Identify and collaborate with programs to use typology